THE TECHNOLOGY PROGRAMME

AUTUMN 2006 COMPETITION FOR FUNDING

Sensors and Imaging for Medical, Security and Environmental Applications

Summary

Funding is available to support Collaborative Research and Development projects that address innovations in the development and application of sensors and imaging technology.

Sensors and imaging are key technology areas that will provide the basis for the next generation of products across a broad range of areas including medical, security, environmental and transport applications. Sensors and imaging systems also offer significant potential in delivering sustainability benefits to many other sectors. For example, in the area of security, crime prevention and detection sensor systems can provide significant safety benefits to society and they have impact in other areas, from intelligent transport systems to education.

In recognition of the importance of Sensors and Imaging technologies to the UK, an indicative £7.5m of funding has been allocated for Collaborative Research and Development projects that predominantly address healthcare, security, crime detection and prevention and environmental applications. PPARC funding may also be available for projects exploiting technology developed within its programme or projects developing new technologies that will benefit its programme alongside other applications.

It is anticipated that the majority of the projects supported will be Applied Collaborative Research and Development projects from either business-to-business or science-to-business consortia.

dti

SUCCEEDING THROUGH INNOVATION

Sensors and Imaging for Medical, Security and Environmental Applications

COLLABORATIVE RESEARCH AND DEVELOPMENT

Background

Sensors and imaging technology drives a broad range of applications from systems incorporating instruments and sensors for research to embedded industrial sub-systems and components. Sensors are at the beginning of a complex supply chain involving detection, measurement and control in end-user applications.

The combination of sensors and imaging with electronics systems requires generic skills in which the UK is rich and software, electronics and systems considerations are significant challenges in many applications. The UK has historically been successful in commercialising nationally funded research in the field of sensors and measurement. For example,within the medical and healthcare field developments in molecular imaging using optical, MRI and PET probes are set to rapidly improve the understanding and the potential for these techniques to impact healthcare. This is an enabling technology, combining a range of physical and biological sensing and imaging techniques to "detect"," label", and "target" at a molecular scale. Electronics has a part to play in the development of these molecular imaging systems. The aim is to widen the potential sensor application from biomedical to electronic and other application areas.

Sensor technology is also important for homeland security and commercial security systems where terahertz imaging and other electromagnetic or bio-chemical sensing systems will be important as will the development of lab-on-a-chip techniques and detection of illegal substances by imaging and other "multi-sensory" techniques.

Success in this field is therefore increasingly based on interdisciplinary teams, involving sensor design, electronics, and imaging and software specialists and systems engineers. DTI support would act as a catalyst to bring these together with system integrators and users in projects to exploit the UK's excellent science base in this field.

Scope for Applications

Although no area of application is specifically excluded from consideration under this call, particular emphasis will be placed on projects that provide evidence of significant advances in the following application areas:

- Medical and healthcare
- Security, crime detection and prevention systems
- Environmental monitoring (including atmospheric pollution monitoring)

Emphasis will be placed on projects that address clearly identified applications and specific user needs that can demonstrate commercial potential and also wider benefits. Project consortia should therefore include at least one 'end-user' partner.

Funding Allocation and Project Details

An indicative £7.5m of DTI funding has been allocated to Collaborative Research and Development projects that address one or more of the areas indicated above and involve science-to-business and business-to-business interactions. Additional funding from EPSRC is also available for projects where there is a significant high quality academic component and in particular for those projects that demonstrate added value to its existing portfolio; by building on or being complementary to existing research programmes. Department for Transport, Her Majesty Customs and Revenue and Home Office are interested in the outcome of the call and may be willing to participate in appropriate and suitable project proposals following the review at outline stage.

Projects can range from small, highly focused basic research projects, aimed at establishing technical feasibility, through to applied research and experimental development projects configured to produce technology demonstrators. It is anticipated, however, that the majority of the total funding will be allocated to projects in the applied research category.

Projects can range from 2-3 years duration and be seeking grant support up to £2.0m. Larger projects will be considered with appropriate justification; no project will be rejected on the grounds of size alone. Projects will generally aim to implement significant business change within 5-10 years.

Contact

The deadline for registration of intention to submit an application is **midnight 8 January 2007**. The deadline for submission of outline application form and outline industry partner finance forms is **midnight 15 January 2007**.

For information about the application process please visit http://www.technologyprogramme.org.uk/ This website contains guidance for applicants, including deadlines and dates of applicant briefing sessions.

Alternatively call the helpline on **01355 272155** or email **info@technologyprogramme.org.uk**

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